

AMENDMENTS TO THE SPECIFICATION

The following amendments are to correct errors in the spelling, language and grammar of the application, to provide the reader with a clearer understanding of the invention. No new material is added.

Please replace the paragraph beginning at line 30, page 9 with the following amended paragraph:

- - During uplink transmissions, information packages in the form of SDU's are provided by the user connections 36 to the connection interface 34. The connection interface 34 is utilized by the communications processor 32 to control the transmission of SDUs to the node 16 and transfers the SDUs to the communications processor 32. The communications processor 32, among other things, converts the SDUs into the appropriate PDU format for the transmission link. The PDUs are then transferred from the communications processor 32 to the modem 40, which modulates them onto an IF carrier signal. The modem 40 transfers the IF signal to an IF-RF converter 42, which further converts the signal to the RF range that is appropriate for the antenna 44 or other transmitting mechanism. Again, if an RF communications link is not being utilized, the IF-RF converter 42 and the antenna 44 may be substituted by an appropriate transmitter function module. This function is that of a transmitter and any suitable transmitter may be used. The RF signal is then transmitted via the antenna 44 across the communications link to the base station 12 for processing and transference to an appropriate data source as discussed above. - -

Please replace the paragraph beginning at line 14, page 10 with the following amended paragraph:

- - Figure 4 is an illustration of the breakdown of a frame in communications systems utilizing frames. Fig. 4 shows a TDD frame and multi-frame structure 200 that may be used by the communications system 10 of Fig. 1. As shown in Fig. 4, the TDD frame 200 is subdivided into a plurality of physical slot (PS) 204, 204'. In one embodiment, the TDD frame 200 is one millisecond in duration and includes 800 physical slots. Alternatively, the present invention can be used with frames having longer or shorter duration and with more or less PSs. Some form of digital encoding, such as the well-known Reed-Solomon (RS) encoding, convolutional encoding, or turbo code encoding, may be performed on the digital information over a pre-defined number of bit units referred to as physical layer information elements (PI). The modulation and/or the [[FEC]] Forward Error Correction (FEC) type may vary within the frame and determines the number of PSs (and therefore the amount of time) required to transmit a selected PI. In one embodiment, data is referred to as being sent and received using three different modulation types, namely QAM-4, QAM-16, and QAM-64. - -

Please replace the paragraph beginning at line 3, page 19 with the following amended paragraph:

- - A CRC indicator field (CI) follows the FC and FSN fields to indicate whether or not CRC is appended to the payload. A packet discard eligibility field (PDE) can also be used and may provide information regarding the payload in a situation where there is congestion. In a congestion situation the wireless communications system may first discard packets indicating discard eligibility. A reserved field follows the PDE field. The reserved field may provide means for future expansion of system functions. In some embodiments packing subheaders may

be used to store some header information in the payload as well; and any of the header information may be stored in the packing subheaders. In embodiments utilizing packing subheaders, one of the reserved bits would be utilized to indicate the whether or not packing subheaders are present. Such a bit might be called a ~~packing subheader present field (PSP)~~ packing subheader present field (PSP) 819. Packing subheaders can be of various lengths and describe the length of the individual SDU or fragment payloads that follow each packing subheader. Alternative downlink PDU formats may be similar to the downlink PDU format 800 illustrated in Fig. 8 with minor deviations for differing characteristics. - -

Please replace the paragraph beginning at line 1, page 26 with the following amended paragraph:

- - These modules can perform functions that correspond to, and are complimentary with those of the base station communications control modules described above. The power control module 1220 may utilize signals sent by the base station to adjust the node's transmission power level as necessary to optimize the communications link's performance. The SNR/BER calculation module 1230 can interact with signals from its complimentary base station control module to monitor the performance of the communications link and to request the base station to adjust the downlink transmission characteristics as necessary to optimize that performance. The node state management module 1240 can maintain information about the node and the communications link between the node and the base station and may transfer information as necessary to update such information that is stored in the base station. An adaptive burst profile management module 1280 may also be utilized to correspond with that of the base station to adaptively change uplink burst profile. In addition, the node communications controls may also include various operational parameter control modules such as automatic frequency control (AFC) and automatic gain control (AGC) control module [[1190]] 1290 that can control various settings of the modem used in the communications system. - -

Please replace the paragraph beginning at line 3, page 28 with the following amended paragraph:

- - The packing subheaders 1404, 1410, ~~[[1404]]~~ 1414, may include, among other items, a length extension item (LE) and a length item. The length extension item indicates the quantity of bits required in the subheader length field to indicate the length of the SDU that follows the subheader. The length item indicates the length of the SDU. There may be multiple variable length SDUs between the second variable length SDU 1412 and a final variable length SDU 1416; or there may be no more SDUs between the two. The PDU header 1402 contains a length field J that comprises the entire length of the payload 1420. That payload 1420 includes the length of the first SDU 1408 (length a), the length of the second SDU 1412 (length b), the length of the last SDU 1416 (length c) as well as the lengths of the respective packing subheaders 1404, 1410, 1414, and any other SDU lengths and their subheaders that are in the payload 1420. By this system, various lengths can be utilized and accommodated while minimizing the amount of payload 1420 bits that are utilized in the packing subheaders 1404, 1410, and ~~[[1440]]~~ 1414. Because the packing subheader size can be variable depending on the type of information it contains and the length of the SDU with which it corresponds, the amount of payload lost, or that is not dedicated to carrying data, is minimized, while still allowing the PDU to contain variable length SDUs in the most efficient manner. - -